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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/538,024	03/29/2000	Subhankar Chatterjee	C-481B	6245

7590 12/18/2001

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EXAMINER
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JACKSON, MONIQUE R

ART UNIT	PAPER NUMBER
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1773

DATE MAILED: 12/18/2001

91

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/538,024

SOV-11  
Applicant(s)

CHATTERJEE ET AL.

Examiner

Monique R Jackson

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 26 September 2001.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-50 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-50 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.  
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).  
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 6, 7, 10.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

**DETAILED ACTION**

1. The amendment filed 9/26/01 has been entered. New Claim 50 has been added. Claims 1-50 are pending in the application.
2. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.
3. The amendment filed 9/26/01 is objected to under 35 U.S.C. 132 because it introduces new matter into the disclosure. 35 U.S.C. 132 states that no amendment shall introduce new matter into the disclosure of the invention. The added material which is not supported by the original disclosure is as follows: "in a single step" in the paragraph at page 3, lines 1-7 and the paragraph at page 3, lines 17-24; and the term "once" in the paragraph at page 3, lines 8-16. The Examiner notes that the original disclosure at the time of filing does not appear to describe or suggest that the invention, particularly the process, is limited to curing in a single step.

Applicant is required to cancel the new matter in the reply to this Office Action.

***Claim Rejections - 35 USC § 112***

4. The following is a quotation of the first paragraph of 35 U.S.C. 112:  
  
The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.
5. Claims 1-49 are rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. The amended claims recite the limitation "in a single step"

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in Claims 1 and 48, and exposed "once" in Claim 27, however the Examiner cannot find support for these limitations, literally or inferred, in the original disclosure at the time of filing.

***Claim Rejections - 35 USC § 102***

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) do not apply to the examination of this application as the application being examined was not (1) filed on or after November 29, 2000, or (2) voluntarily published under 35 U.S.C. 122(b). Therefore, this application is examined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

7. Claims 1-19, 27-42, and 49-50 are rejected under 35 U.S.C. 102(b) as being anticipated by Buethe et al (USPN 4,287,039.) Buethe et al teach a radiation-curable aqueous composition comprising 20-80wt% water and a radiation-curable compound containing at least one alpha-beta ethylenically unsaturated radiation polymerizable group, such as a polyglycidyl ether of a polyhydric alcohol and other acrylates as instantly claimed, which may be applied to a substrate, such as plastics, paper or metal, and irradiated with actinic radiation, such as ultraviolet or electron beam radiation in a single step, to form a cured coated substrate wherein the coating composition can be utilized for coating foodstuff containers given their low toxicity in comparison to conventional-radiation curable finishes which are toxicologically unsafe because

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of their monomer content and wherein the coating has a viscosity with the instantly claimed range and may further comprise pigments, dyes or other filler materials (Abstract; Col.1-6; Examples.) Given the invention taught by Buethe et al is formed by curing an aqueous coating composition in the absence of toxic monomers and comprises the same materials as the instantly claimed invention, and in particular epoxy-containing materials which are inherently very reactive, the Examiner takes the position that the cured coating layer taught by Buethe et al would inherently have an uncured residue amount within the instantly claimed range.

8. Claims 1-16, 27-42 and 48 are rejected 35 U.S.C. 102(e) as being anticipated by Reich et al (USPN 6,011,078.) Reich et al teach an aqueous radiation curable coating composition comprising a water soluble radiation curable compound S comprising at least one alpha-beta ethylenically unsaturated radiation-polymerizable double bond with at least 10wt% water wherein the compound S include epoxy (meth)acrylates as instantly claimed including butanediol diglycidyl ether and ethoxylated alcohols wherein the solids content of the coating is preferably at least 75wt% but no more than 95wt%, which would inherently have a viscosity within the instantly claimed range, and wherein the coating composition may further comprise pigments or other suitable additives and may be used to coat various substrates such as plastics, metals, and paper (Abstract; Col. 10-12; Examples.) Reich et al further teach that coating composition may be applied to a substrate and then irradiated with ultraviolet or electron beam radiation without a physical drying step (Col. 12, lines 24-43.) Given the invention taught by Reich et al is formed by curing an aqueous coating composition comprising the same materials as the instantly claimed invention, absent diluent monomers, and cured by the same process, the

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Examiner takes the position that the cured coating layer taught by Reich et al would inherently have an uncured residue amount within the instantly claimed range.

***Claim Rejections - 35 USC § 103***

9. Claims 20-26 and 43-47 rejected under 35 U.S.C. 103(a) as being unpatentable over Buethe et al. The teachings of Buethe et al are discussed above. Buethe et al teach that the substrate may be various materials including plastics, metals, and paper but does not specifically teach polyethylene or polypropylene as the plastic or steel or aluminum as the metal. However, polyethylene and polypropylene are obvious species of plastics utilized to produce food containers as well as aluminum in terms of an obvious species of metal and hence would have been obvious to one having ordinary skill in the art at the time of the invention to utilize these substrate materials or any other plastic or metallic substrate material based on the desired end use of the coated substrate. In terms of the extractable content and method of measuring the extractable content, the Examiner takes the position that is well known in the food packaging art to determine extractable amounts in packaging materials utilizing a standard measuring process such as the process instantly claimed, and hence, it would have been obvious to one having ordinary skill in the art at the time of the invention to utilize any standard measuring process to determine the extractable amount for health related reasons of the coated substrate taught by Buethe et al when utilized as a food container.

10. Claims 10 and 43-44 50 are rejected under 35 U.S.C. 103(a) as being unpatentable over Reich et al. The teachings of Reich et al are discussed above. Reich et al do not specifically limit the viscosity of the coating composition to between 10 and 100,000 cp nor do Reich et al teach the particular plastic or metal substrate material. However, Reich et al do teach that solids

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content of the composition may be varied and that the composition may further comprise fillers or thickening agents, which in turn affect the viscosity of the composition. Further, given that it is known in the art that viscosity is a result-effective variable affecting the coatability of the composition based on a particular coating method, it would have been obvious to one having ordinary skill in the art at the time of the invention to determine the optimum coating properties such as viscosity based on the coating method utilized. Additionally, it would have been obvious to one having ordinary skill in the art at the time of the invention to determine the particular plastic or metal substrate to utilize in the invention taught by Reich et al based on the desired end use of the coated substrate, wherein polyethylene/polypropylene and aluminum are obvious species of plastic and metal substrates, respectively, to be coated with an acrylate coating composition.

11. Claims 17-26, 43-47 and 50 are rejected under 35 U.S.C. 103(a) as being unpatentable over the admitted prior art in view of Reich et al in further view of Buethe et al. The admitted prior art teach the use of radiation curable acrylate coating composition in food packaging applications however it does not teach an aqueous coating composition as instantly claimed. However, as discussed above, Reich et al and Buethe et al teach aqueous acrylate coating compositions that provide several advantages over conventional acrylate coating composition containing monomers or toxic solvents, especially with regards to environmental concerns, wherein the coatings can be applied to a variety of substrate materials including plastics, paper, and metals, and irradiated with electron beam or ultraviolet radiation to produce cured films absent any unreacted monomer, wherein Buethe et al specifically teach that the aqueous coating composition is particularly suited for the production of food packaging materials such as food

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container given their low toxicity. Though Reich et al and Buethe et al do not specifically teach the use of polyethylene, polypropylene, steel or aluminum as a plastic or metal packaging substrate, it would have been obvious to one having ordinary skill in the art to determine the desired plastic or metal substrate for a particular end use. Further, in terms of the extractable content and method of measuring the extractable content, the Examiner takes the position that is well known in the art to determine extractable amounts in packaging materials utilizing a standard measuring process such as the process instantly claimed to determine the environmental effects of the material, and hence, it would have been obvious to one having ordinary skill in the art at the time of the invention to utilize any standard measuring process to determine the extractable amount for environmental or health related reasons of the coated substrate taught by Reich et al or Beuthe et al based on the desired end use of the coated material wherein Beuthe et al specifically teach that the coated materials are particularly suited for food containers.

#### ***Response to Arguments***

12. Applicant's arguments with respect to claims 1-49 have been considered but are moot in view of the new ground(s) of rejection.

13. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period



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will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Monique R Jackson whose telephone number is 703-308-0428. The examiner can normally be reached on Mondays-Thursdays, 8:00AM-4:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Paul J Thibodeau can be reached on 703-308-2367. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9310 for regular communications and 703-872-9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0661.



mrj  
December 16, 2001



Paul Thibodeau  
Supervisory Patent Examiner  
Technology Center 1700